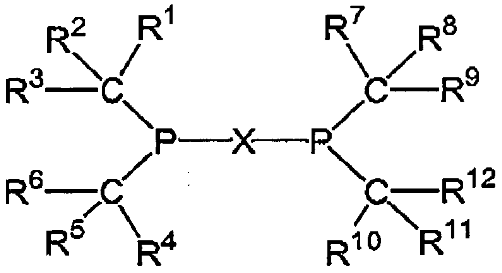
AMENDMENT TO THE CLAIMS

Please amend claim 1 as set forth below. This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A process for producing a carboxylic acid or ester said process comprising: contacting an olefin substrate with a nucleophile and carbon monoxide, in the presence of

a Group VIII metal;

a ligand having the formula



wherein

X is a substituted or unsubstituted bridging group selected from the group consisting of a divalent aryl, a divalent alkylene group, and a divalent combination of alkylene and aromatic groups; and

wherein R^1, R^4, R^7, and R^{10}, independently are H, or C_1 to C_{12} alkyl;

provided that R^2, R^3, R^5, R^6, R^8, R^9, R^{11}, and R^{12}, independently are C_1 to C_{12} alkyl or cycloalkyl,

wherein R^2 and R^3; R^5 and R^6; R^8 and R^9; and R^{11} and R^{12} may be taken together to form a cycloalkyl group; and a promoter, said promoter comprising a strong acid having a pKa in water of less than 1 and, when the nucleophile is water, at least one carboxylic acid;

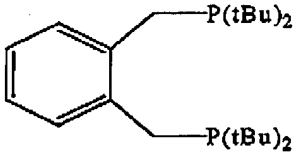
wherein in said process:

the olefin substrate is 3-pentenenitrile and the nucleophile is an alcohol or water to produce the compound of the formula $NC\text{-}CH_2\text{-}CH_2\text{-}CH_2\text{-}CH_2\text{-}CO_2R'$ wherein R' is H or C_1 to C_{12} alkyl;

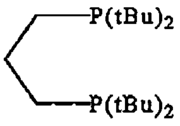
the olefin substrate is 3-pentenoic acid and the nucleophile is water to produce adipic acid; and

the olefin substrate is methyl 3-pentenoate and the nucleophile is methanol to produce dimethyl adipate.

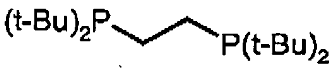
2. (Original) The process of claim 1 wherein the ligand is selected from the group consisting of the



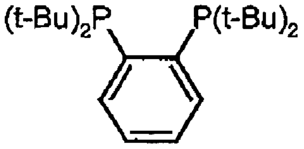
Ligand 1



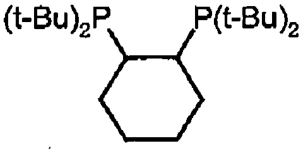
Ligand 2



Ligand 3



Ligand 4



Ligand 5.

3. (Original) The process of claim 1 wherein said Group VIII metal is palladium.

4. (Original) The process of claim 1 wherein said promoter is methanesulphonic acid.

5. (Original) The process of claim 1 wherein at least one of R^1, R^4, R^7, and R^{10} is H, C_1, C_2, or C_6 to C_{12} alkyl.

6. (Original) The process of claim 1 wherein the substrate is (a) or (c).

7. (Original) The process of claim 6 wherein the nucleophile is water and the substrate is 3-pentenenitrile, said process further comprising adding a carboxylic acid.

8. (Original) The process of claim 7 wherein the carboxylic acid is acetic acid.